SPECIFICATION

DESCRIPTIVE TITLE OF THE INVENTION

SELF-CLOSING RING BINDER

CROSS-REFERENCE TO RELATED APPLICATIONS

Not Applicable

STATEMENT REGARDING FEDERALLY SPONSORED R & D

Not Applicable

REFERENCE TO SEQUENCE LISTING, A TABLE, OR A COMPUTER PROGRAM LISTING APPENDIX

Not Applicable

BACKGROUND OF THE INVENTION

In order to insert papers into a ring binder, the knob(s) is to be pushed to have the openings of rings. And the knob(s) is to be pulled to close the rings after inserting the papers. The inventor has looked for a method to open and close the openings of the binder rings easily and automatically. The claimed invention has only one step to file the papers, which is just insert the papers on the binder rings, while the conventional ring binder mechanism requires two steps for open and close respectively.

BRIEF SUMMARY OF THE INVENTION

The invented mechanism has self-closing openings at the center of each rings of the binder. With the help of spring forces, the openings are made when a stack of

papers are aligned and pushed the self-closer. Then the papers are inserted to the each ring. Upon completion of the paper loading through the rings, the openings are closed automatically. The invented mechanism is safer and easier to use than the conventional ring binder. Furthermore there is no chance of falling pages out of the binder.

BRIEF DESCRIPTION OF THE DRAWINGS

01. The Drawing 1/5 is the overall measurements of the invention with perspective view.
02. The Drawing 2/5 is the measurement of basic frame of the ring binder. The perspective view also includes the illustration how the self-closer, spring and holding pin are located.
03. The Drawing 3/5 is the dimension of self-closer, which is located at the center of each binder ring. It works as the opening for paper insertion.
04. The Drawing 4/5 is the size of spring and holding pin located between inside of the self-closer and binder ring.
05. The Drawing 5/5 is the illustration how the papers are inserted and filed under the invented mechanism.

DETAILED DESCRIPTION

01. In order to be self-closing, a tension spring is utilized at each binder rings. It is located in the slot of each binder rings at right side. The long leg of spring is inserted to the hole of the self-closer. The opposite binder rings work as the stopper for the retaining force of spring through the self-closer for the respective right side rings.

02. When the self-closer is pushed by force such as stack of papers, an open space is made to insert the papers between each binder rings, the right ring and left ring respectively. Upon the holes of punched papers are aligned and slide at each left binder rings, the self -closer returns with the force of spring tension and stops at the left side binder ring.

03. The materials of each parts and assembly procedures are as following:

A. Materials of each part:

(a) The basic frame of ring binder is made either by molded plastic, molded fiberglass, or metal wire welded on metal plate.

(b) The self-closer is made either by a thin sheet metal, molded plastic, or molded fiberglass.

(c) The spring and holding pin are made by thin wire.

B. Assembly Procedures:

01 Make a 1/16" slots for embedding the spring at the center of each of right rings of the binder.

02. Drill 1/32" holes at the center of 3/64" vertical and from the end cut of each right rings.

03. Make 1/32" holes at the center of 3/64" vertical and from the right end of the self-closures.

04. Insert the spring in the slot, short leg inside of the right ring of the binder.

05. Put the self closer over the right binder ring with insert the long leg of spring to the hole of self-closer.

06. Align the holes of self-closer, binder ring and spring together.

06. Slide the holding pin through the aligned holes and affix it.

07. Do the above steps from 04 through 06 at the remained two binder rings.